

CLAIMS

That which is claimed is:

1. A method of rendering infectious proteins non-infectious, comprising:
contacting infectious proteins with a formulation comprising a salt of an alkyl sulfate;
allowing the proteins to remain in contact with the salt of the alkyl sulfate at a
temperature in a range of from about 10°C to about 80°C for period of time and under conditions
so as to render the proteins non-infectious.
2. The method of claim 1, wherein the infectious proteins are infectious prion
proteins.
3. The method of claim 1, wherein the formulation is an aqueous formulation
comprising 0.25% or more of the salt of alkyl sulfate.
4. The method of claim 1, wherein the salt of alkyl sulfate is a salt of a cation of a
metal selected from the group consisting of sodium, calcium and magnesium.
5. The method of claim 1, wherein the salt of alkyl sulfate is sodium dodecyl sulfate.
6. The method of claim 1, wherein the period of time to render the protein non-
infectious is two hours or less.
7. The method of claim 6, wherein the period of time to render the proteins non-
infectious is one hour or less.
8. The method of claim 1, wherein the conditions comprise a pH selected from the
group of ranges consisting of (a) less than 5.0 and (b) more than 9.0.
9. The method of claim 1, wherein the conditions comprise a pH of 4.0 or less.

10. The method of claim 1, wherein the conditions comprises a pH of 10.0 or more.
11. The method of claim 1, wherein the alkyl moiety is comprised of from 2 to 40 carbon atoms.
12. The method of claim 11, wherein the alkyl moiety is comprised of from 6 to 12 carbon atoms.
13. The method of claim 1, wherein the conditions comprise a temperature in a range of from about 15°C to about 70°C.
14. The method of claim 1, wherein the conditions comprise a temperature of about 30°C ± 15°C.
15. The method of claim 1, wherein the formulation comprises 1% or more of the salt of the alkyl sulfate.
16. The method of claim 1, wherein the formulation comprises 3% or more of the salt of the alkyl sulfate.
17. A method of rendering infectious proteins non-infectious, comprising:
contacting infectious proteins with a formulation comprising a salt of an alkyl sulfate;
allowing the proteins to remain in contact with the salt of the alkyl sulfate at a pH of 5.0 or less for period of time and under conditions so as to render the proteins non-infectious.
18. The method of claim 17, wherein the infectious proteins are infectious prion proteins wherein the formulation is an aqueous formulation comprising 0.25% or more of the salt of alkyl sulfate and further wherein the salt of alkyl sulfate is a salt of a cation of a metal selected from the group consisting of sodium, calcium and magnesium.

19. The method of claim 17, wherein the salt of alkyl sulfate is sodium dodecyl sulfate.

20. The method of claim 17, wherein the period of time to render the protein non-infectious is two hours or less and the pH is 4.0 or less.

21. The method of claim 20, wherein the period of time to render the proteins non-infectious is one hour or less.

22. The method of claim 17, wherein the conditions comprise a temperature in a range of from about 15°C to about 140°C.

23. The method of claim 24, wherein the conditions comprise a temperature of about $132^{\circ}\text{C} \pm 10^{\circ}\text{C}$.

24. A method of rendering infectious proteins non-infectious, comprising:
contacting infectious proteins with a formulation comprising a salt of an alkyl sulfate;
allowing the proteins to remain in contact with the salt of the alkyl sulfate at a pH of 9.0 or higher for period of time and under conditions so as to render the proteins non-infectious.

25. The method of claim 24, wherein the infectious proteins are infectious prion proteins and wherein the formulation is an aqueous formulation comprising 0.25% or more of the salt of alkyl sulfate and further wherein the salt of alkyl sulfate is a salt of a cation of a metal selected from the group consisting of sodium, calcium and magnesium.

26. The method of claim 24, wherein the salt of alkyl sulfate is sodium dodecyl sulfate.

27. The method of claim 24, wherein the period of time to render the protein non-infectious is two hours or less and the pH is 10.0 or higher.

28. The method of claim 27, wherein the period of time to render the proteins non-infectious is one hour or less.

29. The method of claim 24, wherein the conditions comprise a temperature in a range of from about 15°C to about 140°C.

30. The method of claim 24, wherein the conditions comprise a temperature of about $132^{\circ}\text{C} \pm 10^{\circ}\text{C}$.

31. A formulation, comprising:
a salt of an alkyl sulfate present in an amount in a range of from about 0.25% to 20% by weight;
an acid present in a molarity sufficient to maintain the formulation's pH at about 4.5 or less; and
a solvent.

32. The formulation of claim 30, wherein the salt of the alkyl sulfate is sodium dodecyl sulfate.

33. The formulation of claim 30, wherein the acid selected from the group consisting of peracetic acid and is acetic acid.

34. The formulation of claim 30, wherein the solvent is selected from the group consisting of water, ethanol and methanol.

35. A formulation, comprising:
a salt of an alkyl sulfate present in an amount in a range of from about 0.25% to 20% by weight;
a base present in a molarity sufficient to maintain the formulation's pH at about 9.5 or more; and
a solvent.

36. The formulation of claim 35, wherein the salt of the alkyl sulfate is sodium dodecyl sulfate.

37. The formulation of claim 35 wherein the base is sodium hydroxide.

38. The formulation of claim 35, wherein the solvent is selected from the group consisting of water, ethanol and methanol.